

Infinite Series

Infinite series –

n^{th} term test –

If $\sum a_n = A$ and $\sum b_n = B$ are convergent, then

If $\sum a_n$ converges and $\sum b_n$ diverges, then

Ex. $\sum a_n = 1+1+1+\dots$ $\sum b_n = -1+-1+-1+\dots$

Geometric Series

The sum of a geometric series

$$S_n - rS_n =$$

$$\sum_{n=1}^{\infty} n^2 =$$

$$\sum_{n=1}^{\infty} \frac{n+1}{n} =$$

$$\sum_{n=1}^{\infty} (-1)^{n+1}$$

$$\sum_{n=1}^{\infty} \frac{-n}{2n+5}$$

Math 142 – Calculus 2
Section 10.2 Video Worksheet

Name _____

$$\frac{9}{100} + \frac{9}{100^2} + \frac{9}{100^3} + \dots + \frac{9}{100^n} + \dots$$

$$\sum_{n=1}^{\infty} \frac{\cos(nm)}{5^n}$$

$$\sum_{n=1}^{\infty} \frac{6}{(2n-1)(2n+1)} =$$

$$\frac{5}{1 \cdot 2} + \frac{5}{2 \cdot 3} + \frac{5}{3 \cdot 4} + \dots + \frac{5}{n \cdot (n+1)} =$$

$$\sum_{n=1}^{\infty} \frac{7}{4^n} =$$

$$\sum_{n=1}^{\infty} \frac{2n+1}{n^2(n+1)^2}$$

$$\sum_{n=1}^{\infty} \left(-\frac{1}{2}\right)^n (x-3)^n =$$

$$\sum_{n=0}^{\infty} \left(\frac{e}{\pi} \right)^n =$$

$$\sum_{n=1}^{\infty} \left(\frac{1}{\ln(n+2)} - \frac{1}{\ln(n+1)} \right) =$$

$$\bar{d} =$$

$$.0\bar{6} =$$

$$1.24\overline{123} =$$

$$\sum_{n=1}^{\infty} \left(\frac{5}{2^n} + \frac{1}{3^n} \right) =$$